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PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Docket No: Q64167

Kazunaga SUZUKI

Appln. No.: 09/836,284

Allowed: September 24, 2003

Confirmation No.: 5459

Group Art Unit: 2853

Filed: April 18, 2001

Examiner: Ly T. Tran.

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For: **INK JET RECORDING APPARATUS**

INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. §§ 1.97 and 1.98

MAIL STOP ISSUE FEE

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56, Applicant hereby notifies the U.S. Patent and Trademark Office of the documents which are listed on the attached PTO/SB/08 A & B (modified) form and/or listed herein and which the Examiner may deem material to patentability of the claims of the above-identified application.

One copy of each of the listed documents is submitted herewith.

The present Information Disclosure Statement is being filed: (1) No later than three months from the application's filing date; (2) Before the mailing date of the first Office Action on the merits (whichever is later); or (3) Before the mailing date of the first Office Action after filing a request for continued examination (RCE) under § 1.114, and therefore, no Statement under 37 C.F.R. § 1.97(e) or fee under 37 C.F.R. § 1.17(p) is required.

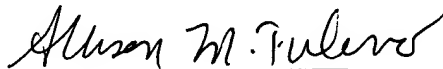
INFORMATION DISCLOSURE STATEMENT
U.S. Appln. No.: 09/836,284

In compliance with the concise explanation requirement under 37 C.F.R. § 1.98(a)(3) for foreign language documents, Applicant encloses herewith a copy of a Communication from a foreign patent office in a counterpart application citing such documents, together with an English-language version of at least that portion of the Communication indicating the degree of relevance found by the foreign patent office.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,



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Date: March 9, 2004

Substitute for Form 1449 A & B/PTO <u>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</u> <i>(use as many sheets as necessary)</i>				<i>Complete if Known</i>	
				Application Number	09/836,284
				Confirmation Number	5459
				Filing Date	April 18, 2001
				First Named Inventor	Kazunaga SUZUKI
				Art Unit	2853
				Examiner Name	Ly T. Tran.
Sheet	1	of	1	Attorney Docket Number	Q64167

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
		Number	Kind Code ² (if known)		
		US			
		US			
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FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Translation ⁶
		Country Code ³	Number ⁴	Kind Code ⁵ (if known)			
		JP	9-193378	A	07/29/1997		
		JP	7-290720	A	11/07/1995		
		JP	9-29996	A	02/04/1997		
		JP	11-192723	A	07/21/1999		
		JP	5-318718	A	12/03/1993		
		JP	60-248357	A	12/09/1985		
		JP	9-226116	A	09/02/1997		

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published.	Translation ⁶

Examiner Signature	Date Considered
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²See Kind Codes of USPTO Patent Documents at www.uspto.gov, MPEP 901.04 or follow the hyperlink from the title of the document to the intranet. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST. 3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to indicate here if English language Translation is attached.

English-language version of at least that portion of the Communication indicating the degree of relevance found by the foreign patent office:

D1: 9-193378A
D2: 7-290720A
D3: 9-29996A
D4: 11-192723A
D5: 5-318718A
D6: JP 60-248357A
D7: JP 9-226116A

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The Japanese Examiner asserts that:

D1 teaches that a plurality of preliminary ejections (e1-e3) and one subsequent application of inversed voltage (r1) are performed at a cycle identical with a printing cycle during a time period T1 as a unit operation, in a case where a printer is left for a long time.

D1 further teaches that several to several tens times of the above unit operation are performed, and an interval between r1 and next e1 is longer than the printing cycle (cf., description [0040] and Fig. 2).

D2 teaches that an ejection frequency of preliminary ejections are gradually increased (cf., descriptions [0032]-[0040]).

D3 teaches that a meniscus of ink in a nozzle orifice is vibrated every time when one main scanning recording is finished, and a refresh signal for ejecting viscous ink is applied when a predetermined number of main scanning recordings are finished (cf., descriptions [0027]-[0033]).

D4 teaches that the number of preliminary ejections is varied in accordance with the length of a standby state of a printer (cf., descriptions [0058]-[0059]).

D5 teaches that the degree of one recovery operation for recovering ejection failure and the number of recovery operations repeated are determined in accordance with the length of a standby state of a printer (cf., description [0010]).

D6 teaches that the relationship between an ink viscosity and the length of a standby state of a printer depends on characteristics of the ink (cf., page 5, upper left column lines 15-20).

D7 discloses a circuit for generating plural kinds of drive waveforms to be applied to a piezoelectric element, and a drive circuit for selectively outputting one of the drive waveforms to the piezoelectric element (cf., description [0009]).